NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LYNDON B. JOHNSON SPACE CENTER
EARTH RESOURCES LABORATORY
MISSISSIPPI TEST FACILITY
BAY ST. LOUIS, MISSISSIPPI 39520

REPLY TO ATTN OF: GE

TO: Program Manager
Attn: Mr. Stoney

FROM: GE/Robert H. Cartmill

SUBJECT: Type I Progress Report for ERTS Project 9665

This report summarizes activities and progress on the subject project from April 30, 1973, through June 30, 1973.

A. Evaluation of satellite remote sensing and automatic data techniques for characterization of wetlands and marshlands.

B. NA323

C. There are no major problems impeding the progress of the investigation. The major difficulty of lack of coverage was solved with a successful pass over the study area on May 5, 1973. This pass covered all parts of the study area which were previously uncovered. It also occurred at the time when the spring flood was at its height and the flood control works in the Atchafalaya basin were operating.

The precision imagery of the October 1, 1972, pass was received.

Some delay has been experienced in processing the aircraft data taken on January 15, 1973, because of the commitment of the Slidell Computer Center to support the Skylab project.

A delay was experienced in processing the magnetic tapes of the February 4, 1973, ERTS pass. These tapes had parity errors and were unreadable. They were returned and new ones have been received. The new tapes are very good and the processing of this pass has begun.

D. The October 1, 1972, pass was successfully processed and the banding problem was circumvented by use of a three channel classification technique. Analysis of training samples for this pass indicated that it would not be possible to separate the three principle tree species of the area - cypress, tupelo, and willow at this time of year. This was expected

as previous studies with aircraft data indicated the same thing. The paucity of good marsh training samples also led to confusion between marsh and other forms of vegetation. Likewise the aquatic water hyacinth was similar enough to other forms of vegetation as to appear at several odd locations. The results of this classification appear to be only fair. However, much good experience was gained and two problems experienced will be avoided in processing later passes. These are the banding experienced in channel 3 and the inability to select irregularly shaped training fields. The latter difficulty was overcome by a software improvement.

It is anticipated that the aircraft data of January 15, 1973, and the ERTS Data of February 4, 1973, will both be processed by the time of the next reporting periods. This should provide a good comparison between aircraft and ERTS data.

E. No significant results were obtained during this reporting period.

F. No published articles or papers, pre-prints, in house reports, or talks were released during this reporting period.

G. No further recommendations concerning practical changes are made at this time.

H. No changes in the standing order forms have been submitted.

I. No ERTS Imagery Description Forms were submitted during the reporting period.

J. Data request forms dated May 16, May 23 and June 21, 1973, were submitted during the reporting period.

K. Both the cost-benefit questionnaire and the system variable questionnaire were completed and returned.

Robert H. Cartmill

Robert H. Cartmill
Principal Investigator

cc:
GSFC/430/Richard G. Stonesifer
GSFC/245/Robert Phillips
GSFC/650/Stanley C. Freden
GA/R.O. Piland